Coastal Conservancy

Watershed Planning Guide

Every watershed has its own unique set of conditions, issues, and stakeholders and consequently every watershed planning process will be different. There are, however, certain steps that are common to most planning efforts. Likewise, the same stumbling blocks have a tendency to crop up across the board. The following is meant to be a guide to the planning *process* - a checklist highlighting the common steps and ways to avoid the common problems. It should be modified as much as necessary to fit the particular circumstances of your watershed. It is not intended to assist in identifying particular assessment tasks or protocols.

An overview flowchart for watershed assessments and implementation is on the next page. This process guide assumes that there is enough knowledge of the critical issues in your watershed that the assessment process will also include the focused technical studies. If you are starting from scratch, you may want to step back and begin with a broad review of existing information to identify the critical issues and to focus your efforts. This can be done with or without the help of consultants. The Oregon Watershed Assessment Manual (*www.oweb.state.or.us/publications/wa_manual99.shtml*) is one method available for this initial stage.

A couple of other things to consider as you undertake your watershed plan:

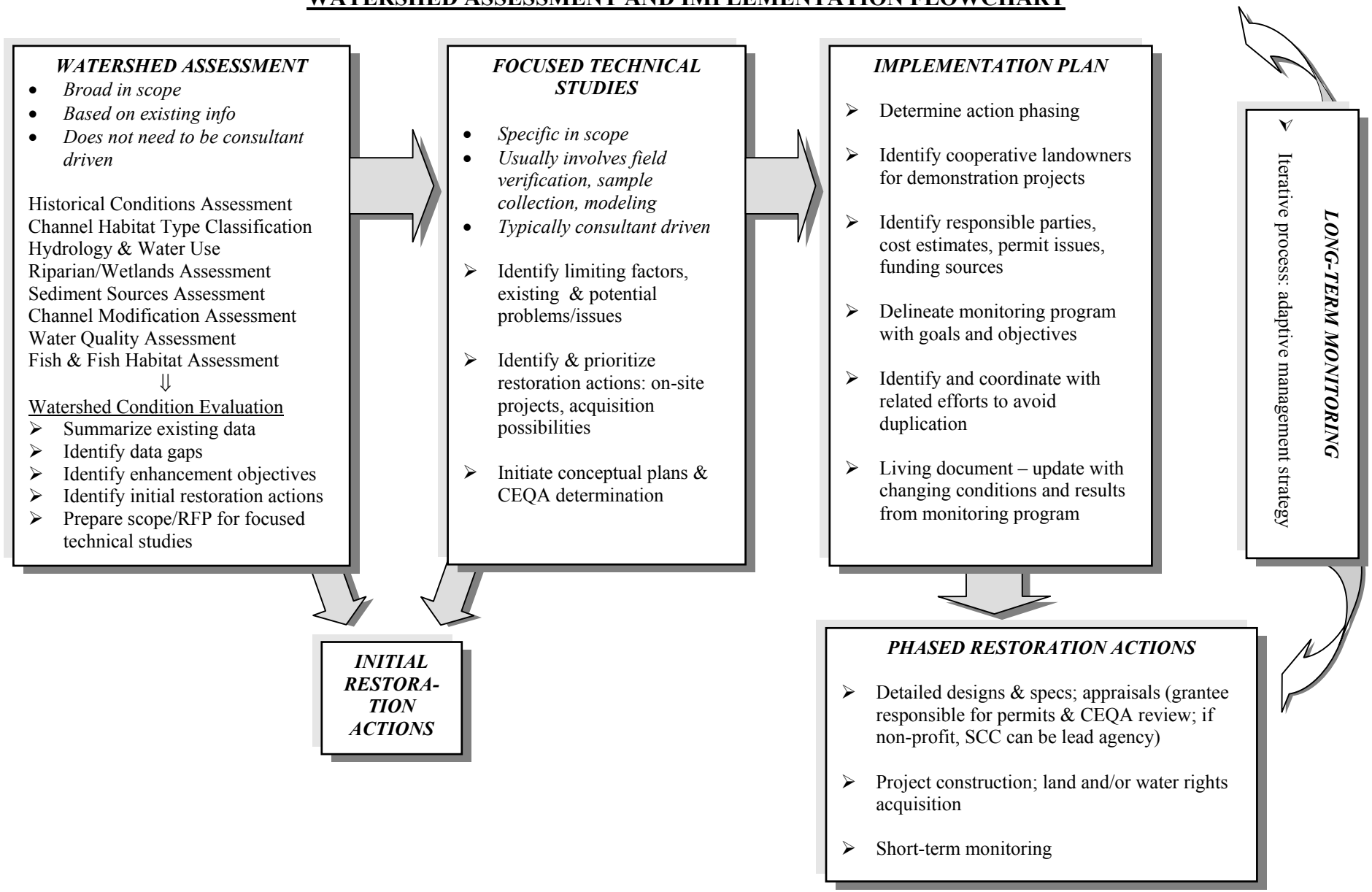
- Have your consultants prepare quarterly reports. These come in handy to keep funding agencies informed of progress and are also useful to provide to all interested parties including your committees and the community, as well as local governments and legislators you may be turning to for plan adoption or funding support.

- Think ahead to how you will measure success of your restoration projects. As you design your assessments, you may want to identify particular stream reaches where you collect more extensive baseline data for future monitoring efforts. You should also have your consultants prepare monitoring plans specifying locations and protocols to follow.

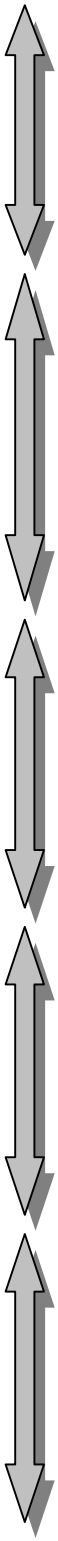
- Determine who will do your environmental review and involve them early in the process. They can provide critical input on environmental impacts as the project recommendations are being identified.

The next sections walk through the planning process, followed by samples of plan structure, committee structure, project milestones, and typical stumbling blocks. Keep in mind that these are starting points -- there are many ways to accomplish the same goal.

WATERSHED ASSESSMENT AND IMPLEMENTATION FLOWCHART



WATERSHED PLANNING PROCESS



Note: The Public and Technical Advisory Committee (TAC) meetings are the minimum needed for the proposed planning process. You may need to schedule additional meetings.

START-UP
- Define project, team, approach

Public Meeting #1 — Review issues, concerns

TAC Meeting #1 — Review strategy

WATERSHED ASSESSMENT
- Collect data

TAC Meeting #2 — Mid-progress review

ANALYSIS / SYNTHESIS
- Analyze and synthesize results
- Identify restoration recommendations

TAC Meeting #3 — Review results, synthesis; Rank recommendations

Public Meeting #2 — Review recommendations; Review restoration goals

PLAN PREPARATION
- Draft plan and implementation strategy
- Send out for review
- Final plan

ENVIRONMENTAL REVIEW
- Identify any environmental impacts resulting from plan implementation

PLAN ADOPTION AND IMPLEMENTATION

START-UP

Purpose:

- To identify plan goals, objectives, and critical questions;
- To prepare a preliminary work program including a list of deliverables and milestones;
- To determine the structure of the final plan;
- To prepare the Request for Proposals (RFP);
- To establish project team and committees.

Tasks:

Note: It is presumed that funding has already been obtained, therefore many of these tasks may have been completed during the proposal preparation.

a. Identify project coordinator and associates.

b. Prepare an initial overview of the watershed including physical features and processes, known issues, and readily available existing information. Identify land use and historical conditions. Create a timeline of significant events in the watershed. Identify related concurrent studies or projects and obtain contact information (to find opportunities to share resources and avoid duplication). Begin an annotated bibliography of related materials.

c. Establish base map(s).

d. Identify plan goals, objectives, and initial critical questions.

e. Identify plan scope/scale, methodology, and protocols (and the rationale for the decisions). Determine what type of consultants will be needed and how they will work together. Note any areas of potential overlap or sensitive timing issues.

f. Establish the preliminary work program (to be finalized after input from consultants, the community, funding sources, and regulatory agencies, as appropriate):
    - Identify assessment components (such as *channel habitat typing, hydrology, riparian integrity, sediment sources, fish habitat,* etc.) and tasks.
    - Outline the anticipated structure of the final plan *(see attached sample)*.
    - Identify the deliverables needed to complete the plan structure. Consider intent and format - the type and level of detail needed, as well as how the deliverables will integrate into the final plan and potential digital information databases.
    - Prepare a preliminary budget per task.
    - Map out a preliminary schedule and significant project milestones *(see attached sample)*.

g. Based on the above tasks, prepare the RFP and circulate. In some cases, an RFP may not be necessary.

h. Identify the federal, state, and local legislation and planning documents that are pertinent to watershed planning and restoration efforts (i.e., *statutory framework*).

i. Review the planning process and determine what kind of technical and community review is needed. Identify committee structure *(see attached sample)* and composition, decision-making process, and critical peer review junctures.

j. Establish a database of contact information for community members, stakeholders, local agencies, etc.

k. Select consultants and form project team; outline duties/responsibilities. Clarify invoicing methods and scheduling with consultants and funding sources.

l. Obtain landowner access agreements.

Deliverables:

1. Initial watershed overview document describing known issues, existing land use and historical conditions, and a timeline of significant events in the watershed.
2. Annotated bibliography database, including list of related studies and/or projects.
3. Base map(s).
4. List of preliminary plan goals, objectives, and critical questions.
5. Document describing plan scope/scale, methodology, protocols, and data collection forms.
6. Preliminary work program with anticipated tasks, final plan structure, deliverables, budget, schedule, milestones, and landowner access agreements.
7. RFP document.
8. Document describing statutory framework.
9. Diagram/description of structure and composition of committees.
10. Database of contacts.
11. List of responsibilities of project team members.

PUBLIC MEETING #1

Note: Determine whether this is a presentation to a public advisory group, the community as a whole, or both. Depending on how much community-building and outreach needs to be done, there may need to be additional public meetings.

Purpose:

- To present the planning process to the community and explain the context of issues and regulations;
- To solicit feedback in the form of local concerns, local resources, and historical information;
- To clarify the community's role in the process and ways to get involved.

Tasks:

a. Publicize and organize the community meeting.

b. Prepare a presentation summarizing the project, watershed issues, the need for the watershed plan, and ways to get involved. Identify a facilitator.

c. Conduct the session with the community, capturing local concerns and opportunities.

d. Based on feedback, refine the list of plan goals, objectives, critical questions, and work program as necessary.

e. Prepare a document addressing all concerns identified by the community and how they have been incorporated into the assessment. For those concerns not included, explain why they are beyond scope or are more appropriate for future planning efforts. Determine how to convey this information back to the community.

f. Add public meeting attendees to the contact database.

Deliverables:

12. Outreach materials – press releases, flyers, etc.
13. Presentation maps, graphics, and other handouts describing the project.
14. Minutes of Public Meeting #1.
15. List of community concerns and opportunities and how they will be addressed in the plan, or why not.

WATERSHED ASSESSMENT _____

Note: The two proposed Technical Advisory Committee (TAC) meetings are the minimum needed for this section; additional ones may be required. Depending on the needs of the community, additional public meetings may also be helpful to provide updates on the assessment and planning progress.

Purpose:

- To refine the list of plan goals, objectives, and critical questions, and to finalize the work program;
- To conduct the assessment components in order to establish past and current conditions and anticipate future trends (see *Analysis / Synthesis* stage);
- To identify any immediate restoration/protection opportunities;
- To develop the criteria and method for ranking potential restoration recommendations.

Tasks:

a. Hold initial project team meeting(s) to discuss approach, protocols, timing, deliverables, formats, and data collection forms.

b. Hold TAC Meeting #1 at the start of the assessment to review plan goals, objectives, critical questions, and the work program, as well as protocols and data collection forms. Based on input from the TAC, consultants, community, funding sources, and regulatory agencies, finalize the work program, including the scope of work, budget, and schedule.

c. Project team/consultants conduct assessment components including reviewing and summarizing existing information, identifying data gaps, collecting field data, and creating models as needed.

d. Hold TAC Meeting #2 mid-way through assessments to review data, address unexpected issues or determine course corrections, revise critical questions if necessary, and identify any immediate restoration opportunities.

e. The project team and/or TAC should develop a list of criteria and method for ranking restoration recommendations produced in the *Analysis/Synthesis* section. Possible criteria include *habitat value, risk of loss, multiple benefits, cost, location, landowner cooperation, immediate opportunity, etc.*

Deliverables:

16. Refined list of plan goals, objectives, and critical questions.
17. Finalized work program.
18. Minutes from TAC Meetings #1 and 2.
19. Results of the assessment in the formats previously determined.
20. List of immediate restoration opportunities.
21. Criteria and method to be used to rank restoration recommendations.

ANALYSIS / SYNTHESIS

Purpose:
- To interpret the results of the assessments as they relate to the plan objectives;
- To delineate preliminary goals and objectives for restoration;
- To recommend and rank projects for implementation;
- To identify data gaps and area of further study.

Tasks:

a. Project team/consultants analyze the data from the watershed assessment, summarizing and interpreting results as they relate to the plan objectives. For each assessment component, prepare a background overview, findings of existing conditions, and anticipated future trends as a result of non-action.

b. Synthesize results across components to identify how different physical processes and land uses interact with each other to create or degrade beneficial habitat. This will clarify what restoration projects are needed and the order in which they are implemented. Delineate preliminary goals and objectives for restoration.

c. Identify potential restoration projects, best management practices, and acquisition possibilities.

d. Identify data gaps and areas of further study.

e. Prepare result summaries and restoration project descriptions for public presentation.

f. Hold TAC Meeting #3 to review assessment results and project recommendations, and to rank the recommendations based on the agreed-upon criteria. The rankings will be further prioritized based on community input in the next section.

Deliverables:

22. Document per component summarizing background overview, findings of existing conditions, and anticipated future trends as a result of non-action.
23. Synthesis document with preliminary goals and objectives for restoration.
24. List of restoration recommendations, ranked by the TAC and in a format for presentation.
25. List of data gaps and areas needing further study.
26. Minutes of TAC Meeting #3.

PUBLIC MEETING #2_____

Note: Determine whether this is a presentation to a public advisory group, the community as a whole, or both.

Purpose:

- To present the results of the assessment and discuss recommendations;
- To get community input on how to prioritize projects and next steps;
- To seek support for funding of restoration projects;
- To solicit involvement in projects and describe available technical and financial resources;
- To obtain a list of those interested in reviewing the draft implementation plan.

Tasks:

a. Publicize and organize community meeting.

b. Identify technical and financial resources available for project implementation.

c. Prepare presentation summarizing assessment results, recommendations, and preliminary restoration goals and objectives. Identify a facilitator.

d. Conduct session to identify community priorities as they relate to project implementation and next steps for watershed planning. Discuss restoration goals and objectives, and ways to get involved.

e. Gather contact information for those interested in reviewing the draft implementation plan. Add new attendees to the contact database.

f. Refine and prioritize the list of ranked restoration recommendations to reflect the input from the community.

Deliverables:

27. Outreach materials – press releases, flyers, etc.
28. List of technical and financial resources available for project implementation.
29. Summary of community priorities as they relate to project implementation.
30. Finalized restoration goals and objectives.
31. Prioritized list of restoration recommendations.
32. Initial list for community review of draft implementation plan.
33. Minutes of Public Meeting #2.

PLAN PREPARATION

Purpose:

- To outline the restoration goals and objectives and to assemble the results and recommendations of the assessment;
- To present a strategy for implementation;
- To prepare conceptual plans for high priority projects;
- To allow for review of draft plan and incorporation of comments into final plan.

Tasks:

a. Identify phasing of projects and lead agencies/organizations.

b. Identify cost estimates for projects; combine with the potential funding and technical resources identified in the previous section.

c. Identify permit issues and other requirements for approval and adoption.

d. Prepare conceptual designs for high priority projects.

e. Delineate short- and long-term monitoring programs, including measurables for success.

f. Prepare maps, graphics, figures, and tables to be included in plan. Determine publishing strategy *(printing costs, binding, web-format, etc.)*.

g. Assemble deliverables from previous stages into plan format including restoration goals, objectives, and recommendations; edit and fill in gaps as necessary. Write executive summary.

h. Search contact database for reviewers for draft plan. Expand as necessary.

i. Publicize and distribute draft plan for review.

j. Document all comments and incorporate into plan as appropriate.

k. Publish final plan.

l. Seek adoption of plan from key agencies after environmental review.

Deliverables:

34. Implementation strategy matrix (tasks a-c per recommended project).
35. Conceptual designs for high priority projects.
36. Plan maps, graphics, figures, and tables.
37. Draft watershed assessment and implementation plan.
38. List of potential plan reviewers.
39. Document containing all comments on draft plan.
40. Final watershed assessment and implementation plan.
41. Monitoring program.

ENVIRONMENTAL REVIEW (CEQA/NEPA) _____

Purpose:
- To review the recommendations of the plan for potential environmental impacts;
- To make a determination of those impacts.

Tasks:
a. Conduct an Initial Study on projects proposed in the plan.

b. Determine whether a Negative Declaration, Mitigated Negative Declaration, or an Environmental Impact Report/Statement (EIR/EIS) is required. Prepare the necessary document(s).

Deliverables:
42. Initial Study
43. Environmental impact document.

Sample Plan Structure

Note: The structure should be outlined early in the process to identify how each element will be obtained and to ensure formats are compatible when it comes time to write the plan. Most elements will fall out of the original documents created throughout the process. To demonstrate this, the numbers in parentheses key back to the numbered deliverables in the guide.

Acknowledgements

Executive Summary

INTRODUCTION
- Purpose – need/issues, plan goals and objectives *(1), (16)*
- Background – watershed processes and historical conditions *(1)*
- Project methodology *(5), (17), (9), (11)*
- Other related studies/projects *(2)*

ASSESSMENT COMPONENTS
(Channel habitat type, hydrology/water use, channel modification/geomorphology, riparian integrity, sediment sources, fish habitat, etc.)
- For each component:
- Background *(22)*
- Findings / Results of non-action *(22)*
- Information gaps *(25)*

WATERSHED CONDITION / SYNTHESIS
- Summary of components – integrated "big picture", any dependencies *(23)*
- Community priorities, vision *(29), (15)*
- Restoration goals and objectives *(30)*

PRIORITIZED RECOMMENDATIONS *(31), (20), (21)*
(On-site projects, land/water acquisition possibilities, best management practices/guidelines, areas of further study, etc., and the criteria and methods used to rank and prioritize the recommendations.)

IMPLEMENTATION STRATEGY (matrix for each recommendation) *(34), (28)*
- Phasing
- Lead organization/agency
- Estimated costs
- Potential funding sources
- Technical resources
- Permit issues

CONCEPTUAL DESIGNS FOR HIGH PRIORITY PROJECTS *(35)*

ENVIRONMENTAL REVIEW *(42), (43)*

MONITORING PROGRAM *(41)*

BIBLIOGRAPHY *(2)*

ANNOTATED BIBLIOGRAPHY SPECIFIC TO WATERSHED *(8)*

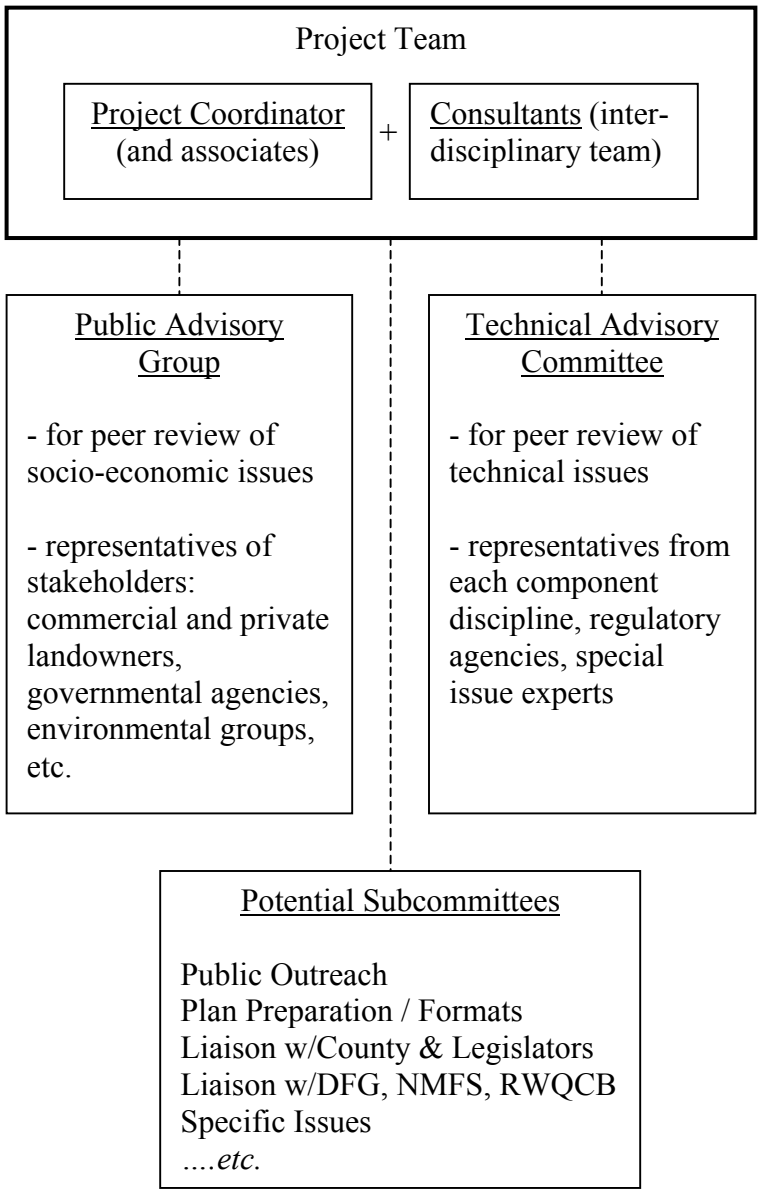
STATUTORY FRAMEWORK *(8)*
Federal legislation
State legislation / plans
Local legislation / plans

TABLES, FIGURES, GRAPHICS, PHOTOGRAPHS *(13), (36)*

MAPS *(3), (13), (36)*

TECHNICAL APPENDICES *(19)*

Sample Committee Structure



Sample Milestones

- Start-up / RFP (define project, team)
- Initial Project Team Meeting (define approach)
- Public Meeting #1 (review issues, concerns)
- TAC Meeting #1 (review strategy)
- Begin Assessments
- TAC Meeting #2 (mid-progress review)
- Assessments Complete
- Synthesize Results / Identify Recommendations
- TAC Meeting #3 (review results/synthesis; rank recommendations)
- Public Meeting #2 (review recommendations; review restoration goals)
- Draft Plan Complete
- Review Draft Plan
- Final Plan Complete
- Environmental Review
- Plan Adoption

Typical Stumbling Blocks in Watershed Planning Efforts

The Blimp That Couldn't Take Off - Loss of focus

Inevitably there will be more issues in a watershed than your plan can address. It is important to carefully designate the scope of your plan at the outset and identify very specific goals and objectives for the planning process itself -- and stick to them. It is better to have a narrow focus that is actually accomplished than lofty ambitions that are never realized because the effort becomes too cumbersome.

Us vs. Them - Lack of community support

People like to feel included. All too often, planning efforts fail to consult the ones most affected: landowners and other stakeholders. Suspicion can develop and impede both the planning and implementation efforts. If community concerns are truly validated from the beginning, with stakeholder participation in setting the goals and priorities, there is a much greater likelihood of success. It is a good idea to have an experienced facilitator to keep the public meetings on track and to make sure everyone is heard.

Fuzzy Agendas - Non-purposeful meetings

How many meetings have you sat through where the purpose was, shall we say, vague? It will be much easier to keep people on your committees if it is abundantly clear at the beginning how many meetings will be required (keeping them to a minimum), what is to be accomplished, and by having agendas that are stuck to like glue. Clarify at the outset what committees are needed, who sits on them, and how decisions are reached. Typically a technical advisory committee is needed to provide technical peer review, so it is important to determine the junctures where such review would be most beneficial. Equally important is to have a public advisory committee to provide review of socio-economic issues. Since these groups serve different purposes, it is a good idea to have them meet separately. The public meetings described in the guide can be geared to the public advisory group and/or the community at-large as appropriate.

That's My Toe You're Stepping On - Unclear responsibilities

Watershed plans involve multiple disciplines and require an integrated team effort. It is important to bring the team together at the beginning to plan an approach, figure out how to reduce redundancy, and best leverage time out in the field. A coordinated effort can help reduce costly streamwalks by every consultant, for example. It should be clear what is expected of every team member in terms of tasks and deliverables. Methodology and protocols also need to be discussed at the outset.

The Slippery Slope of Time - Falling behind schedule

There will always be circumstances that arise beyond your control, but it is important to identify a schedule upfront and adhere to it, making modifications if necessary. Equally

crucial is to identify key project milestones. These provide interim deadlines and checkpoints to assess progress, helping to keep the big picture in view.

Hurry Up and Wait - Not taking the plan far enough

On the other hand, the planning process may speed through on schedule but not complete all the steps necessary to actually begin project implementation. Identifying recommendations is just the first step of an implementation strategy. The guide ensures you consider project phasing, costs, potential funding sources, and permit issues, as well the preparation of conceptual designs and environmental review. It can be difficult to raise funds to do the latter two tasks once the plan is complete, which in turn can lead to significant delays. Conversely, it is much easier to get funding for implementation when you have a package outlining a clear strategy with completed initial designs and environmental review.

Herding Cats - Difficulty pulling the plan together

Often the structure of the plan is decided on toward the end of the planning process, after the reports have come in from the various consultants. Not only does this run the risk that there may be critical information gaps, but what you do get from the different sources may vary in intent and format, making it difficult to coalesce everything into the plan. The fundamental concept behind this guide is that the deliverables, or work products, of the process itself become sections of the final planning document. You should identify the structure of the plan - the chapters and sections - at the outset and work backward to determine what deliverables are needed to produce those sections. If thought is given upfront to the intent and format of the deliverables, and they are each reviewed at the time of delivery as to how they will integrate into the final plan, then the actual production of the plan should consist of simple assembly and minor editing. This heightened focus on the final outcome will help guide decisions along the way, not to mention providing valuable direction to your consultants.